

blown-up green tire carcass to form the fabric underlay [(60)] so that the cords of the elastomeric material are oriented at an angle of about 0 degrees to about 5 degrees with respect to the equatorial plane of the blown-up green carcass;

c) blowing up the green tire carcass with the wrapped fabric overlay to engage a belt structure [(16)] and a tread [(12)] to form a completed green tire; and

d) blowing up the completed green tire in a curing mold to prestress the reinforcing cords [(62)] of the fabric underlay [(60)].

REMARKS

This is a preliminary amendment filed with the referenced application.

During the prosecution of the corresponding PCT application Serial No. PCT/US98/14054, the PCT Examining Officer indicated that claim 1 lacked novelty over the reference EP 0,778,164. The PCT Officer noted that the reference taught an angle of greater than or equal to 30 degrees and optimally in the range of 45 degrees to 75 degrees. However the Examining Officer stated that in example 1, an angle of 20 degrees was cited. However, as stated on page 3, lines 2-8 of the '164 reference, "it is preferable that the cords of the auxiliary layer intersect the central equatorial plane at an angle of greater than or equal to 30°, because at angles of less than 30° with respect to the central equatorial plane, sufficient tire radial direction rigidity cannot be obtained and buckling cannot be suppressed. It is even more preferable that the cords of the auxiliary layer are in a range of 45 to 75° with respect to the central equatorial plane. It has been confirmed that, in order to sufficiently and effectively suppress buckling, there must be sufficient tire radial direction rigidity, and circumferential direction rigidity must be maintained, and the angle with respect to the equatorial plane is optimally in a range of 45 to 75°."

By contrast, the fabric underlay of the present invention is defined in amended claim 1 as "containing high-modulus reinforcing cords being aligned from about 0 degrees to less than 20 degrees with respect to the equatorial plane of the tire." This is supported in the application as filed on page 18 lines 10-16. Note that while the cords of the present invention can effectively operate from 0 to 20 degrees, they are most preferably at 0 degrees with respect to the equatorial plane.

The '164 reference refers to cord angles with respect to the equatorial plane greater or equal to 30 degrees and optimally in a range between 45 to 75 degrees. The reason is for this angle range is to reduce lift off due to meridional bending of the tread.

By contrast, the present application uses angles as low as possible because with low angles, high speed performance will be maintained (standing wave reduction). To achieve the same level of performance, the '164 reference needs to add an overlay which imposes unwanted cost and weight.

Another significant advantage of the present invention is the stiff ring effect obtained with low angles, i.e. less than 20 degrees, which you can not get with the higher angles of the '164 reference. That is a part of the load from the footprint can be transferred through the stiff fabric underlay to 180 degrees from the footprint where plies can work in tension.

Thus, the subject matter of amended claim 1 is novel and should be deemed allowable.

Claims 2-9 are dependent on claim 1 as amended and should also be held allowable.

Claim 10 was held allowable by the Examining Officer and should therefore be held allowable.

Claims 11-12 are dependent on claim 10 and should also be held allowable.

Claims 1-10 have been amended to remove the reference numerals.

Above is the marked up version of the replacement claims showing all changes made. Further, a clean set of all pending claims is submitted herewith.

Favorable examination and consideration are respectfully requested.

Respectfully submitted,



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